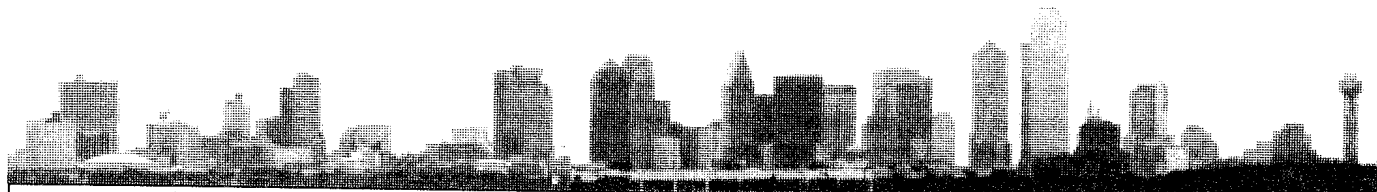


MCCC NEWS

Metroplex Commodore Computer Club



Fort Worth

Volume 11 Issue 2 — February 1993

Dallas

Happy Birthday MCCC

from Bill Raecke

The first monthly meeting of what was then the Mid-Cities Commodore Computer Club was held in February, 1983. That's right — we're **10 YEARS OLD**. The first meeting was largely organizational and little remains in the way of historical records from that first meeting...but here are a few facts from the following month that may be of interest to some of you.

Our acting President was Garry Wordelman and our acting Secretary and Treasurer was Bruce Nelson (who is currently Treasurer of the Amiga By-The-Loop Chapter). Of course there were no chapters at that time. Meetings were held in the Hurst Public Library. As of March 1983, there were 97 members in the club. Our club treasury was a whopping \$388 (which actually wasn't too bad for an organization just starting out).

Our software library got started with the donation of forty-five floppies from Taylor Computer Systems. These represented about 650 public domain educational programs.

Hot topics of the month were the establishment of checkout procedures so that club members would have access to the library, the purchase of 50 floppies which would be used to make backups of the library disks, and the design and printing of MCCC membership cards. MCCC baseball caps were being sold for \$3.50 each.

When the club first started, our members were PET, VIC-20 and C64 owners. Within a couple of months, it became clear that we were primarily a C64 club, but there was an effort in the early days to try to generate more support for our VIC-20 members.

And our long-standing discount agreement with local dealers got under way when RAVE announced that they would offer a 10% discount to MCCC members on both hardware and software not already on sale.

It's been a long time and a lot has changed. By way of comparison, our club now has six separate chapters, each holding a monthly meeting somewhere in the Metroplex. Our name has been changed to the Metroplex Commodore Computer Club to reflect our larger geographic orientation (although the initials MCCC were cleverly retained). We currently have over 300 members (reduced from a high at one time of about 600) and our treasury averages well over \$3000 (although it can dip considerably lower than that at certain times of the year).

Our orientation has changed drastically. From a C64 organization, we have successfully evolved into one that primarily supports Amiga's of various flavors...although we still have thirty-five C64 and C128 owners who are organized into their own chapters — which allows them to get the support they need.

Our Amiga library has almost 800 Fred Fish disks and almost 500 MCCC disks as well as an assortment of other disks that have surfaced from various sources. (By the way — for those who don't know — there is little duplication between the MCCC disks and the Fish disks. That makes for a huge library of programs, pictures, music, fonts and just about anything else you can think of.) Of course, the software checkout procedure was abandoned long ago in favor of a disk copy process. But disk copies have changed drastically, too. In 1983 it took twenty minutes (**THAT'S 20 MINUTES**) to copy a 170K 5 1/4 disk. Now it takes about 90 seconds to copy a 880K 3 1/2 disk.

Yours truly wasn't a member at the start. I bought my C64 in July of 1983 and joined the MCCC shortly after. But I've enjoyed every minute since then. Let's all work together to make sure the club stays strong and healthy over the next 10 years. ✓

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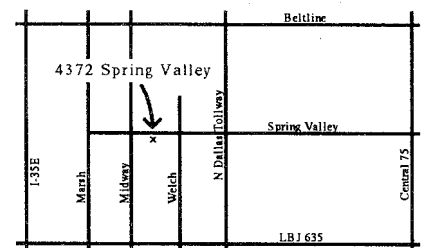
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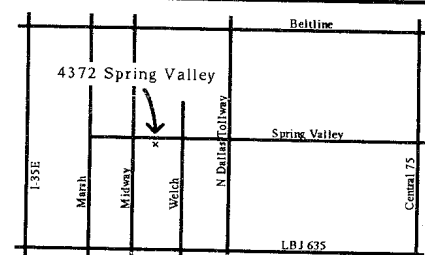
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The Amiga 3000T-040

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BRIEF DESCRIPTION

Amiga A3000 in a tower case with pre-installed A3640 (68040) card.

AUTHOR/COMPANY INFORMATION

Commodore Business Machines
1200 Wilson Drive
West Chester, PA 19380

LIST PRICE

The list price has recently been reduced to about \$2700 (US). I got mine at a special price as a Commodore developer.

HARDWARE AND SOFTWARE

The system came with a pre-installed A3640 card, 4MB of fast RAM and 1MB of chip RAM. It came with a preformatted (with Workbench 2.0.5) Seagate 240MB drive and one high-density (HD) floppy.

I added a second internal HD floppy drive, an A2286 Bridgeboard, an A3070 tape drive and an A1960 monitor. I also transferred my Quantum 105MB drive and 14.4K Practical Peripherals modem from my A1000. In addition, I added 4MB of Fast RAM, another 1MB of Chip memory, and installed Workbench 2.1.

BACKGROUND READING

Since the Amiga 3000T-040 is an A3000T with a 68040 card, I recommend you read Dan Barrett's previous reviews of the A3000T. They are available in the c.s.a.reviews archives on math.uh.edu, and they have a lot of relevant material which I will not repeat here.

WHY A3000T-040?

My computing needs have recently outgrown my Amiga 1000, so I started exploring upgrade paths. My considerations were: an A4000, the A3000T-040, a '486 clone, and a SPARCClassic. I ruled out the '486 since that would require new software and learning a new architecture; and with the new pricing on the Amigas, the savings would not be much. The SPARCClassic was next to leave the list. While the new base machine is fairly inexpensive, the cost of hardware necessary to utilize it fully plus maintenance and repair proved too high. That narrowed it to an A4000 or an accelerated A3000. The only thing the A4000 offered that the A3000T-040 did not was the new chip set and higher graphics speeds (see benchmarks, below.) For the price of not having the latest machine, the A3000T-040 offers more expansion capability and a real SCSI port. The only other option I considered was waiting for the A4000T, but I really couldn't wait much longer, and I imagine the A4000T will be priced

significantly more than the reduced A3000T-040. So, I placed my order for the A3000T-040.

SETUP

The A3000T-040's box contains a bag of parts labeled, "Open Immediately." Inside is a note that says to put the enclosed SCSI terminator on the back SCSI port before turning on the machine. It worries me that one might easily overlook this little warning and have trouble later. Also included was a note telling me to install the 68040.library immediately. A 68040 support disk was included with a neat install script that worked fine.

After turning on the machine and making sure it all worked, I proceeded to take it apart and install my expansion devices. I used the hints in Dan's review to take off the front and side panels. (I recommend reading that review, since the manual does leave a few things out.) The first thing that I noticed is that the motherboard does not have the 68030 and 68882 that other A3000s have. The A3640 card is in the CPU slot and held down by two screws. This must be removed to install fast RAM. I made myself a groundstrap from a length of speaker wire and set to work. One must be careful, but the RAM installation is easily done.

I then started to install the the second floppy drive. Here I faced two problems. First, the screws needed to hold the mounting bracket to the tower were not included in the bag of parts; and second, no instructions were included with the drive. So when I got the screws myself and installed the drive, I could not get the machine to recognize both drives at the same time. I fixed the problem by changing a jumper on the new drive from the DS0 position to the DS1 position. Note that there is a jumper on the motherboard marked DF1 and NO DF1, but it was recently posted to the net that this jumper is not relevant to the HD drives. Perhaps it is for the standard drives — I don't know. Also missing from my bag were the screws for the Tower's feet and for the 5.25" bridgeboard drive. Commodore eventually sent me the feet screws along with the "Quick Installation" poster that I was missing. I managed to assemble the system without it. By the way, you must take both side panels off to install the floppy drives.

The bridgeboard and drive went in easily, though I still can't get the floppy to work. I suspect it is a bad drive, as I did get a borrowed drive to function properly. Sigh. The biggest challenge, I thought, was going to be the installation of my old Quantum drive from my A1000. I was not sure if I would be able to take the drive off my A1000 controller and have it accessible on another. It actually turned out quite easy, though. I mounted it with the supplied "HD stacking brackets" over the internal

Seagate drive and used my old mountlist entries to mount my three separate partitions. To my surprise, they mounted the first time (after changing the device name), and all my files were there. I then tested the A3070 by backing up the drives, and used HDToolBox to reformat them and the A3070 (via Quarterback 5.0.3) to restore them. It all worked fine.

The only real tricky installation process is the installation of the hard drive shelf, as Dan mentions in his review. His hints, however, were quite helpful and sped

The 4000 offers the new chip set and higher graphic speeds. The 3000T-040 offers more expansion capability and a real SCSI port. The only other option is waiting for the 4000T.

up the process enormously. I made the mistake, though, of trying to figure it out myself before re-reading his hints.

The installation of 2.1 over my existing 2.0.5 Workbench was simple. I just used the install script and it replaced everything it needed to, got rid of anything obsolete, and left everything else alone (especially SPEAK; and Say.)

ADDRESSING DAN'S CRITICISMS (from his review):

The internal fan: I don't find the fan noise intolerable at all. It is audible, but not disturbingly so. Either I have an improved fan or am not as sensitive as Dan. It is louder than my A1000's fan, but much quieter than the hunk-of-PC on my desk at work. The unit is standing on the floor facing me at the end of my desk — about two feet away.

The speaker: I have not really employed it much, so I can't comment on it yet.

Locking up during crashes: I have had only a few crashes and all of them resolved with the three-finger salute. I've been quite happy at the fewer number of GURUs. I've had the machine on almost continuously since I got it. No major problems there, either. I guess the real test will be this summer when it is significantly hotter here in Texas. The machine is remarkably stable. (And Mindwalker still works!)

SPEED AND BENCHMARKS

Since one of my primary needs was a faster CPU, I set out to benchmark the system. My work entails a lot of

floating-point intensive operations. I installed Manx C5.2a (they say version 5.3 will support inline math functions that the 68040 needs) and my old version of Absoft Fortran. Both seemed to produce valid code — though the Fortran compiler is certainly not optimized for the new breed of Amiga CPUs. I used these compiler to run some of my standard codes and timed them compared to the SPARC stations I use at work. I would compare them to my A1000, but I have disassembled it, and the thought of setting up the compilers on a floppy-based system is no longer appealing.

In the following benchmark reports, an asterisk ("*") denotes the A3000T-040. The tests were performed on a standard system. I tried to run all benchmarks with nothing else running on the system. (It's possible there were some Bridgeboard tasks running — I am not familiar enough with it to be sure.)

I have not yet tried any of the '040 hacks which speed things up by remapping Kickstart to RAM. If the doc files I read are correct, a substantial speed increase can be gained through some of these programs. I can post results later under some of these conditions if there is interest.

DFT (Discrete Fourier Transform):

I compiled my standard Discrete Fourier Transform program both with Aztec C and Absoft Fortran. I compare the speed to a SPARC 2 and a SPARC SLC both without any additional (non-root) processes running) using the native compilers optimized for floating point operations.

The program reads in a 932 line data file and a 3 line control file, performs a DFT on the data, then writes the results back to disk. The small test produced a 600 point DFT; the big test used the same data but made a DFT with 60000 points. The Amiga C code was optimized by the compiler. The 5.3 version of Manx C should speed things up a bit when it is released. As I understand it, the 68040 FPU does not have the transcendental math functions built-in that the 68881/2 does. Instead, it generates traps to routines which emulate the functions. These traps take time. If, however, the compiler generates the emulated functions in the code itself, then the 68040 can execute these functions quicker than a similarly clocked 68881/2 can. Since the Fourier transform uses these functions extensively, I expect the inline optimization to make a noticeable difference. I think the Amiga FORTRAN timings say more about the compiler than the machine.

System	Small Timing	Big Timing
* (C/Optimized -so)	54 / Not Run	Not Run
* (above but read/ write to RAM:)	47 / 46	76:48 / 76:45
* (Fortran RAM:)	113	224:50
SPARC 2		
(C/Optimized-O2)	12 / 10	17:49 / 16:02

SPARC 2
 (Fortran/Opt -O2) 12 / 10 18:01 / 16:28
 SPARC SLC
 (Fortran/Opt -O2) 34 / 32 55:26 / 52:02
 SPARC SLC
 (C/Optimized -O2) 35 / 33 55:13 / 53:04

CPUSpeed:
 Using the CPUSpeed program included with the operating system, I get the following numbers:

Integer Math		Floating Point
A2000	217K	N/A
A3000	1728K	616K
*	3769K	4822K

SysInfo:
 Using the Speed test on the main screen and the Speed test on the drives screen, I find:

Dhrystones: 18093

Speed Comparisons (how much faster the tested system is):

A500 A600 STD	30.82 (31 times faster than A500)
B2000 Extra RAM	25.88
B2000 GVP A3001	3.04
A2500 A2620	8.80
A3000 25MHz	3.90
PP&S Mercury '040	0.90

MIPS	18.88
MFLOPS	4.79

Internal SCSI Drive Read Speed: 514K/sec.

AIBB: (This is a NICE program — thanks, LaMonte.)

I ran all tests with multitasking disabled and the Screen Overlay option turned on. I chose the most optimized code options for each computer involved. In summary, the A3000T-040 is about 10-20 times faster than a stock A500 for non floating-point (FP) stuff, and about 200 times faster for FP stuff. It is consistently a few times faster than a stock 25MHz A3000 and equal to an A4000 for all but the graphics operations. I understand that running AmigaDOS 3.0 on the system even without the AGA chipset can speed up some graphic operations by a factor of two or so. Here is a summary of the AIBB log file:

System CPU: 68040 FPU: 68040 System MMU: 68040
 CPU Clock Rate: 25.0 MHz FPU Clock Rate: 25.0 MHz

Test Name:	EmuTest
This Machine:	16.43
A500-NFR:	1.00 (68000 SC Math) Base System
A2000-FR:	1.02 (68000 SC Math)
A3000-25:	5.53 (68020 CP Math)
A4000-25:	16.09 (68020 40 Math)

Test Name:	InstTest
This Machine:	10.40
A500-NFR:	1.00 (68000 SC Math) Base System
A2000-FR:	1.01 (68000 SC Math)
A3000-25:	5.90 (68020 CP Math)
A4000-25:	10.08 (68020 40 Math)

Test Name:	Writepixel
This Machine:	6.38
A500-NFR:	1.00 (68000 SC Math) Base System
A2000-FR:	1.45 (68000 SC Math)
A3000-25:	4.10 (68020 CP Math)
A4000-25:	26.12 (68020 40 Math)

Test Name:	Sieve
This Machine:	11.81
A500-NFR:	1.00 (68000 SC Math) Base System
A2000-FR:	1.04 (68000 SC Math)
A3000-25:	9.28 (68020 CP Math)
A4000-25:	11.88 (68020 40 Math)

Test Name:	Dhrystone
This Machine:	19.16
A500-NFR:	1.00 (68000 SC Math) Base System
A2000-FR:	1.03 (68000 SC Math)
A3000-25:	5.96 (68020 CP Math)
A4000-25:	18.96 (68020 40 Math)

Test Name:	Sort
This Machine:	19.91
A500-NFR:	1.00 (68000 SC Math) Base System
A2000-FR:	1.03 (68000 SC Math)
A3000-25:	7.13 (68020 CP Math)
A4000-25:	19.67 (68020 40 Math)

Test Name:	Matrix
This Machine:	16.14
A500-NFR:	1.00 (68000 SC Math) Base System
A2000-FR:	1.02 (68000 SC Math)
A3000-25:	10.14 (68020 CP Math)
A4000-25:	16.22 (68020 40 Math)

Test Name:	IMath
This Machine:	41.42
A500-NFR:	1.00 (68000 SC Math) Base System
A2000-FR:	1.01 (68000 SC Math)
A3000-25:	18.29 (68020 CP Math)
A4000-25:	41.66 (68020 40 Math)

Test Name:	MemTest
This Machine:	11.35
A500-NFR:	1.00 (68000 SC Math) Base System
A2000-FR:	1.03 (68000 SC Math)
A3000-25:	6.70 (68020 CP Math)
A4000-25:	11.54 (68020 40 Math)

Test Name: TGTest
 This Machine: 1.73
 A500-NFR: 1.00 (68000 | SC Math) Base System
 A2000-FR: 1.25 (68000 | SC Math)
 A3000-25: 1.62 (68020 | CP Math)
 A4000-25: 2.93 (68020 | 40 Math)

Test Name: Savage
 This Machine: 229.91
 A500-NFR: 1.00 (68000 | SC Math) Base System
 A2000-FR: 1.01 (68000 | SC Math)
 A3000-25: 207.15 (68020 | CP Math)
 A4000-25: 247.66 (68020 | 40 Math)

Test Name: FMath
 This Machine: 214.06
 A500-NFR: 1.00 (68000 | SC Math) Base System
 A2000-FR: 1.02 (68000 | SC Math)
 A3000-25: 23.65 (68020 | CP Math)
 A4000-25: 213.65 (68020 | 40 Math)

Test Name: FMatrix
 This Machine: 19.54
 A500-NFR: 1.00 (68000 | SC Math) Base System
 A2000-FR: 1.02 (68000 | SC Math)
 A3000-25: 7.14 (68020 | CP Math)
 A4000-25: 19.33 (68020 | 40 Math)

Test Name: BeachBall
 This Machine: 201.82
 A500-NFR: 1.00 (68000 | SC Math) Base System
 A2000-FR: 2.08 (68000 | SC Math)
 A3000-25: 75.70 (68020 | CP Math)
 A4000-25: 354.16 (68020 | 40 Math)

Test Name: SWhetstone
 This Machine: 209.28
 A500-NFR: 1.00 (68000 | SC Math) Base System
 A2000-FR: 1.02 (68000 | SC Math)
 A3000-25: 74.65 (68020 | CP Math)
 A4000-25: 214.39 (68020 | 40 Math)

Test Name: DWhetstone
 This Machine: 204.86
 A500-NFR: 1.00 (68000 | SC Math) Base System
 A2000-FR: 1.01 (68000 | SC Math)
 A3000-25: 78.68 (68020 | CP Math)
 A4000-25: 211.20 (68020 | 40 Math)

Test Name: FTrace
 This Machine: 231.48
 A500-NFR: 1.00 (68000 | SC Math) Base System
 A2000-FR: 1.01 (68000 | SC Math)
 A3000-25: 124.04 (68020 | CP Math)
 A4000-25: 231.59 (68020 | 40 Math)

Test Name: CplxTest
 This Machine: 29.39
 A500-NFR: 1.00 (68000 | SC Math) Base System
 A2000-FR: 1.02 (68000 | SC Math)
 A3000-25: 7.22 (68020 | CP Math)
 A4000-25: 29.03 (68020 | 40 Math)

DOCUMENTATION

The documentation is as Dan describes in his review. The only 68040 specific item is the sheet of paper that comes with the 68040 support disk, and it has an error. It states that the included version of the 68040 does not include an FPU, but it does.

LIKES AND DISLIKES

I am very impressed with the speed of the machine and its reliability. I like AmigaDOS 2.1 a lot: it's a big jump up from a disk-based 1.3. I am equally happy with all the peripherals. The only thing I miss from my A1000 (besides a horribly crowded desktop) is a place to put a pen on the keyboard. Resting a pen against the top row of function keys is not quite the same. I was a bit disappointed that I did not receive the three-button mouse with the system. Instead, I got the standard "pregnant" two-button version. It handles quite well, though.

I like the design of the tower and am happy with the A1960 monitor, though I had heard some bad reports about it. I certainly would prefer a larger 3rd party monitor; but without that kind of money, the A1960 seems to be a good bet.

CONCLUSIONS

I am very happy with the speed of the system. It is only a few times slower than the SPARC that I could have afforded instead (without peripherals of course.) My only worry is that the machine will be treated as some sort of hybrid and future support may be shaky. But then, I owned a Commodore CBM 2001 when everyone else was sporting Apples and TRS-80s, so I'm used to it. This machine should get as much support as any accelerated A3000 does, and perhaps more since it is Commodore-accelerated. I understand that AmigaDOS 3.0 will run on non-AGA machines; so once RTG graphics come along, this machine should be almost indistinguishable from an A4000. The machine really feels professional. For someone looking for a good deal on speed and who doesn't mind being slightly behind the current scene, I highly recommend this machine. I remain pleased with the machine and my productivity has gone up enormously. Processes that used to make me pour a glass of water, read the newspaper and walk the dog before they finished are now done before I can record in my logbook what I am doing. Now, if I only I could make it complete my logbook as well... ✓

Using an Amiga 4000

by Rick Bilonick

the Pittsburgh Commodore Group

I've now had about two weeks to become familiar with Commodore's latest Amiga, the Amiga 4000. To make a long story short, it's fantastic!

By now, everyone has heard that the 4000 supports a very large number of resolutions (e.g. 640 x 480, 640 x 400, 800 x 600, 1280 x 400, 320 x 200, 320 x 400, plus overscan modes...well — you get the idea!). I've already heard some people on the BBS's complaining because the

262,000 simultaneous colors (out of a palette of 16.7 million) are available in ALL screen resolutions with the new HAM8 mode. It is virtually impossible to distinguish HAM8 from 24-bit color.

4000 (unlike the 3000) has no built-in scan-doubling hardware (to remove interlace flicker). However, the 4000 does not need the scan-doubling hardware because its video resolutions are software-programable. If you want to use an interlaced 15 kHz video signal without flicker, you just select the correct screen preference. The software doubles the 15 kHz to 30 kHz. (Of course, you need a multi-sync monitor.) You can also use a 1084 monitor (or a 1080, 1084s, or 2002 monitor) if you choose the original 15 kHz video. There is only one video connector on the 4000 — a 23 pin connector. Every monitor connects here. (The Amiga 3000 has two connectors: a 23 pin 15 kHz connector and a 30 kHz 15 pin connector).

In older Amigas and most other computers, the number of colors available usually depends on the resolution — the higher the resolution, the fewer the number of colors available simultaneously. In the Amiga 4000, 262,000 simultaneous colors are available in ALL resolutions. The 262,000 simultaneous colors (out of a palette of 16.7 million colors) is available using the new HAM8 mode. It's virtually impossible to distinguish HAM8 from 24-bit color. Even more importantly, the 4000 can be used to produce 30 frames/second animations in HAM8. The Workbench is now available in any resolution with up to 256 simultaneous colors. 256 colors is great, but there is a noticeable difference between a 256 color

picture and a 262,000 color HAM8 picture. You really have to see the Amiga 4000 in action to appreciate the graphics. Once you do, you can understand why the Amiga regains the title of best graphics computer even against computers costing twice as much.

With a 68040 processor (with built-in math coprocessor), a 256 color Workbench zooms along — as fast or faster than a 16 color Workbench on a 68030 3000. If you have ever seen Windows on a 486, AmigaDOS 3.0 is faster and easier to use. (Which isn't saying much! Almost every time I've seen someone "using" Windows, when they actually have to do anything they almost invariably return to the MS-DOS prompt!)

AmigaDOS 3.0 is very similar to 2.04 but with added support for the AGA chipset and a few other refinements. Using 3.0, even programs that don't directly support the AGA chipset can be coerced into using it. (Any program that "opens" on the Workbench screen can directly use the new chipset — even though not originally designed to do so. But even programs that don't open on the Workbench can take advantage of the AGA chipset, simply by pulling down the Workbench screen to expose the program's custom screen. Not an ideal solution but extremely useful. Hopefully, ALL Amiga software will follow Commodore's programming guidelines in the future so as to be able to take advantage of future improvements with little programming effort.)

Speaking of resolution, with the new AGA chipset, you can now change the resolution of the pointer. With the ECS chipset and earlier, the pointer was always a low resolution sprite even on a high resolution screen. Now the pointer can be high resolution on ANY screen resolution. You can also have a low resolution pointer on ANY screen (although why you would want one is unclear to me!). The new high-res pointer looks great. (I know I am prejudiced against Windows, but I find the Windows pointer extremely hard to see and just plain annoying.)

So far, I haven't found any software that runs under 2.04 that doesn't run under AmigaDOS 3.0. In fact, some software already supports the new Advanced Graphics Architecture (AGA) chipset. The AGA chipset is all 32 bit and the chip RAM has full 32 bit access unlike the ECS chipset. (The AGA chipset is fully backward compatible with the ECS chipset modes.) *Art Department Professional* (ADPro) supports all the new modes including HAM8. Other software upgrades fully supporting the new modes should be available soon.

Upgrading RAM on the 4000 is a snap. The 4000 comes with 2MB of chip RAM (in one 1MB SIMM) and 4MB of fast RAM (in one 4MB SIMM). Up to 3 additional 4MB SIMMs can be added to fast RAM for a total of 18MB of RAM on the motherboard. (Already available Zorro III

RAM expansion boards can be used to further increase memory.) The location of memory is easy to get to on the motherboard (at most you might have to remove some expansion cards — on the 3000 you had to move the internal floppy drive).

Another great feature of the Amiga 4000 is the inclusion (finally!) of a high-density 1.76MB floppy disk drive. In addition, *CrossDOS* is now fully integrated into AmigaDOS 3.0. So that now you can write 0.880MB low-density Amiga floppies, 1.76MB high-density Amiga floppies, 0.730MM low-density MS-DOS floppies, or 1.44MB high-density MS-DOS floppies. (I've recently read that a UNIX file system enabling Amigas to read/write UNIX — including Sun — floppies is now available. Of course, with AMAX II+, you can also read/write Mac floppies on Amiga drives).

The 4000 comes with a 120MB IDE hard drive. You can also add an additional IDE hard drive. There have been a lot of complaints about not using a built-in SCSI controller. Commodore says that few Amiga users used SCSI (and I've heard that there is now a severe shortage of new SCSI hard drives.) Adding a SCSI host adapter card does cost (under \$100) and can be a little inconvenient, but is a minor problem.

If you need a high powered workstation, the Amiga 4000 is probably the most powerful computer available in its price class and easily outperforms both Macs and PCs.

For those wanting the AGA chipset but not needing the power of a 68040, there is always the new Amiga 1200. The 1200 is the most powerful "home" computer now available. ✓

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Metropolitan Computer

Amiga Software & Hardware
4372 Spring Valley
Dallas, Texas 75244
(214) 702-9119

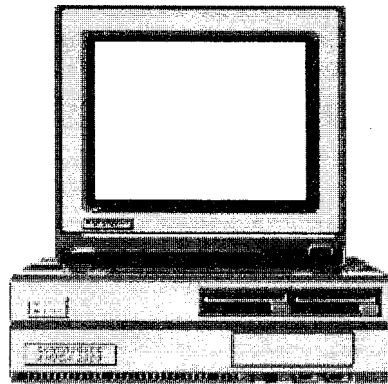
MCCC Spring Classes

class info from Harold Williams

The Metroplex Commodore Computer Club will offer two classes this spring. Both classes will be of interest to those wishing to create their own Amiga applications. The first class will be a complete introduction to the ARexx programming language. The class will cover virtually every aspect of ARexx, including the creation of stand-alone applications and the use of ARexx to control applications. ARexx is a part of the AmigaDOS 2.x and 3.x operating systems. It is available from William S. Hawes for AmigaDOS 1.x systems. The second class will feature the use of CanDo. This class will include a complete overview of the CanDo development system and examples of numerous real applications. CanDo is available from INOVATronics.

Both classes will be held over a period of 4 weeks in three sessions, consisting of a total of nine hours of instruction. The first session will be held April 3rd, the second session April 17, and the third session on May 1. The classes will be held at the Arlington Convention Center, which is conveniently located on I-30 between Dallas and Fort Worth. The ARexx sessions will be held from 9:30 AM to 12:30 PM and will be taught by Bill Raecke. The CanDo sessions will be from 1:30 PM to 4:30 PM and will be taught by Harold Williams. If you've always wanted to know how to get your Amiga to do truly amazing things, these classes are just the thing.

Registration is required. You should find a registration form in this newsletter. The registration fee is \$15 per class or \$25 for both classes. Class size is limited, so register early! If you have questions, contact Harold Williams at 817-483-0537. ✓



Amiga Library News

public domain and shareware picks
from Bill Raecke

Workbench Pics

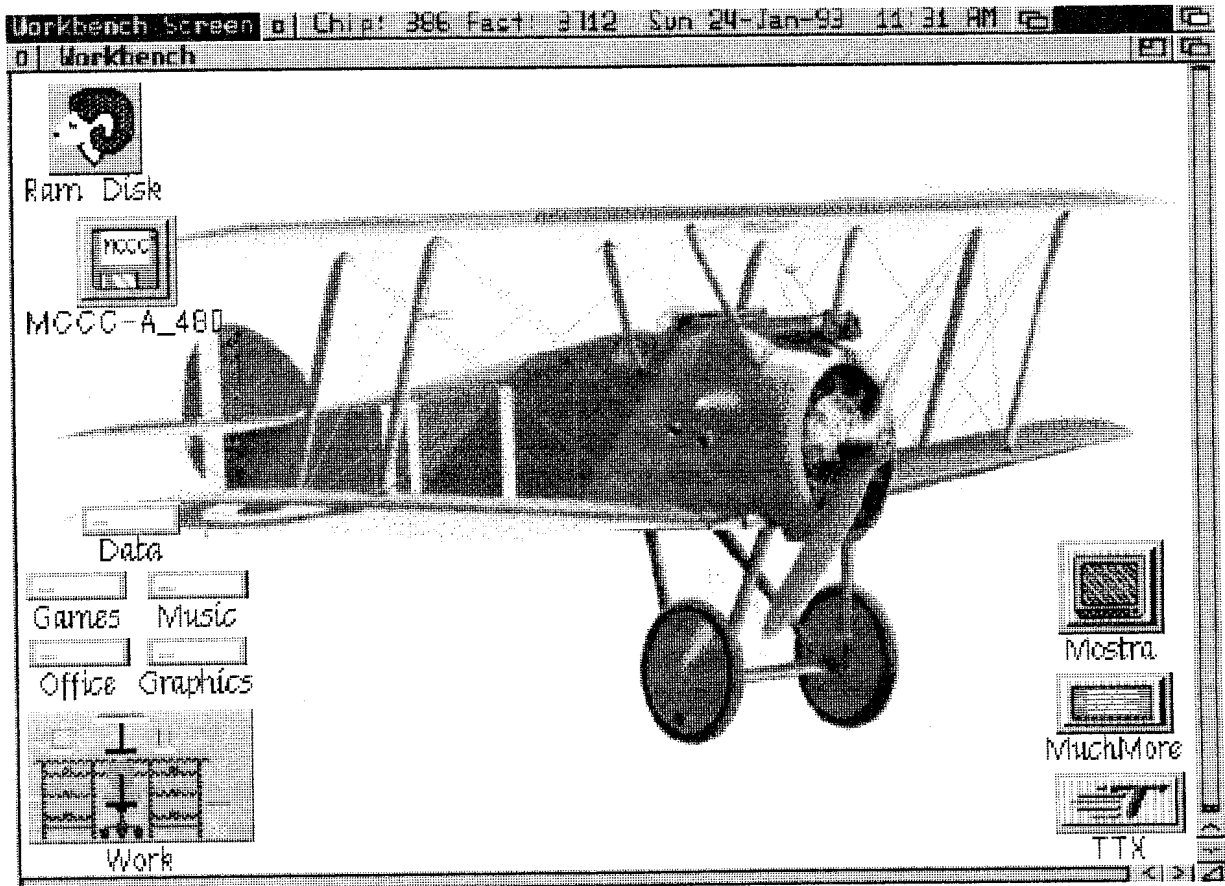
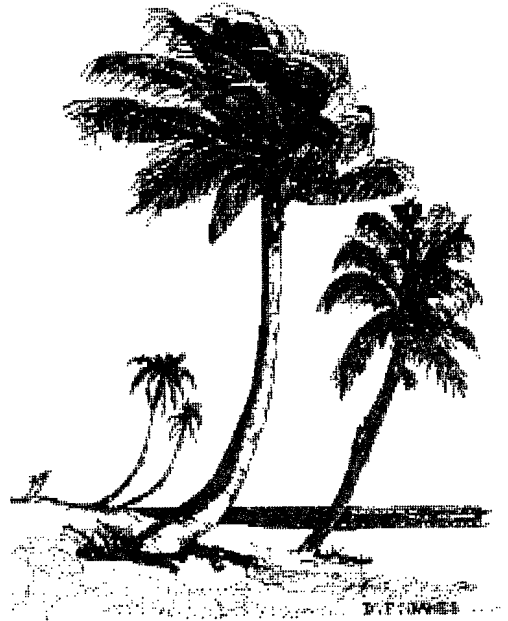
Yep, here's some more. To continue what is fast becoming a tradition, I have added another five pictures designed to be used as backdrops on a 16 color 640 x 400 Workbench. You'll find Harvest (the picture that was featured in last month's newsletter), Sopwith, and three pictures generated with the new Lyapunovia graphic program that was written up last month. Look for them on MCCC-A_480.

Tracker Music

Again this month is the usual assortment of Tracker music. Perhaps a little fewer than last month, but there are still some selections worth having. My favorites this month are Cold on MCCC-A_482 and FUT on MCCC-A_486.

ClipArt

For all you desktop publishers out there, there is a very nice collection of clipart on MCCC-A_483 and MCCC-A_484. 🎨



PostScript and the Amiga

by Jere M. Marrs

from the Northwest Amiga Group — Portland, Oregon

Normally, when we want to print something, we pull down the Project menu and select "print." The printer then goes into action. Such programs usually use the preferences-selected printer through the use of the PRT: device. This device prints according to all of the options you have set in the Printer and PrinterGfx preferences. The ANSI escape sequences can be used to change pen color and font type.

If your printing involves only ASCII character, you can send it directly to the PAR: or SER: device by redirecting the output of the type command to the respective device. If you want to format the text, you must know the escape sequences of your printer and key them in using the keyboard equivalents.

In both of these cases, you send your job to be printed to a device and it gets printed. The printer ultimately determines what happens when it receives output from PRT:, PAR:, or SER:. So the "printer language" is resident in the printer. You will see references to "Epson emulation" or similar declarations in the instructions that come with your printer. Some printers have switch-selectable printing protocols (Epson, HPGL, etc.). These protocols or "languages" are really just ASCII streams with *escape sequences* embedded in the characters. Escape sequences are instructions to the printer to change typeface or font type or to accept a bitmap for graphic rendition. The character which doesn't print, but awakens the printer that something different is coming down the cable is usually ASCII 27 which is called the *escape* character. This is the same ASCII value sent to the console when you press the ESC key. The printer knows that instructions follow ASCII 27 and are not to be printed. The context of the escape sequence tells the printer to start printing again. This is a rather crude way of controlling a printer, especially with the graphic-oriented printers we have now. It worked fine in the Teletype days.

What is PostScript?

PostScript changes this somewhat. PostScript is a true programming language. It is embarrassingly like the rather eccentric language FORTH. Instead of sending an ASCII stream to the printer, the printer receives a *PostScript program*. The PostScript interpreter can be resident in the printer as with the printer protocols mentioned above. Such printers are the Apple LaserWriter, the Tektronix Phaser series of printers and others. The Linotronic typesetters are PostScript devices

that write directly on film at incredible resolutions.

PostScript is a language which is oriented toward typesetting integrated with graphics. The graphics can be a bitmap variety such as the ".IFF" or ILBM forms of the Amiga, or they can be graphics described by the *PostScript language itself*. PostScript has many procedures which draw figures or Bezier curves as well as fills and text in fonts of type that work specifically with PostScript (Adobe) typefaces. Thus, the text and graphics are dealt with on an equal basis in the description of the page. Does that mean we have to write PostScript programs?

PostScript is a true programming language rather like the eccentric language FORTH. Instead of sending an ASCII stream to the printer, the printer receives a PostScript program.

Sources of PostScript

Many applications for the Amiga now offer output in the form of a PostScript program or an *encapsulated* PostScript file. Most notable, the publishing programs (page description programs), structured drawing programs (*Professional Draw*, *ProVector*), spreadsheets (*Professional Calc*) and typesetting languages (*AmigaTEX*). There are several public domain data plotting programs that create PostScript programs as output such as *MultiPlot*, *RexxPlot* and *Gnuplot*.

These programs create an ASCII file which consists of PostScript code which you can then run through a PostScript interpreter. A PostScript program consists of a multipage document while an *encapsulated* PostScript file is analogous to a "clip" or a "brush" which does not necessarily involve the entire page or document. The drawing and plotting programs allow you to save a drawing to an encapsulated PostScript file (usually suffixed with ".eps"). These can usually be included in the page description or typesetting programs such as

Professional Page, *PageStream*, or *AmigaTEX* as figures. Most Amiga users don't have printers that use PostScript input since a PostScript driver is, currently, only a promise. We are restricted to using printers that have preferences drives or an emulation of one of them. So, how do Amiga users print in PostScript without going to a service bureau?

PostScript on the Amiga

The Amiga public domain has been given a jewel called the *post.library*. It is written by Adrian Aylward in the United Kingdom. It is in version 1.7 at the moment. With *post.library* in your *libs:* directory and **post** in your binary directory, you have a PostScript interpreter available to you. It isn't resident in your printer but rather in the computer. It interprets PostScript programs and translates them into output to your preferences printer. If you set up your *PrinterGfx* settings to the optimum values for your printer, the PostScript output will use the full resolution of your printer regardless of the size or magnification of your graphic. The executable **post** is a front-end to the *post.library* that allows its use. It presents a control requester that allows you to adjust offsets and so forth. It allows the output to be sent to your printer, your screen (for a preview) or to an *IFF* file!

Installation

The *post.library* is copied to the *libs:* directory. There is a library for Amigas with 68000 processors and another for processors 68020 and above. The library name should be changed to *post.library* before copying to the *libs:* directory. **post** is copied to your binary directory to *c:* directory (anywhere in your path). The Adobe font binaries are kept in a directory *psfonts:* which you must create and globally assign. In *psfonts:*, you will need a subdirectory called *Afm* which will contain the font metric files for your Adobe fonts. The archive contains a whimsical font called *FunkyFont* which is an Adobe Type 1 font.

The *psfonts:* directory can contain any Adobe Type 1 font in the IBM format. I bought *Adobe Type Manager for Windows* and copied (via *CrossDOS*) the binaries to *psfonts:* and the ".afm" files to the *psfonts:Afm* directory. Due to the limitations of MSDOS and Windows, the filenames had to be foreshortened from the official Adobe names to work with *post.library*. The official names can be found in the header of the metric files following *Font-Name*. Thus *FGR____.PFB* would be changed to *Franklin-Gothic-Roman* and *FGR____.AFM* would be changed to *FranklinGothic-Roman.afm*.

There are plenty of public domain fonts in the Adobe Type 1 format. Check the BBS or library.

post requires either *ConMan* v1.3 or an alternative device specified on the command line with **post**. If you use Bill Hawes' *WShell*, *ConMan* is not required.

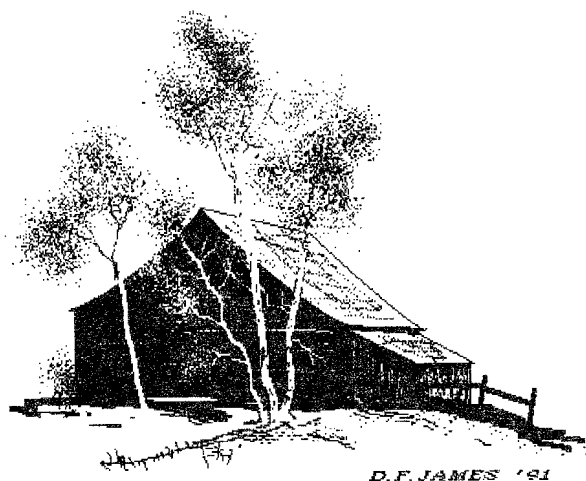
The requesters use *arp.library* version 39.1 (*arp1.3*), so that library must be in *libs:*.

Memory usage is extensive but intelligent. The

screen rendering uses chip RAM, but an anorexic *AGNUS* should suffice. If fast RAM is limited, the printer output will be "banded" so that only a strip of the page is created in memory before being dumped to the printer.

Yes, *AmigaTEX* has its own front end to *post.library* called *psfilt*. The previewer and the printer drivers call *psfilt* to render graphics as well as use the Adobe fonts as system fonts in place of the usual fonts of Computer Modern typefaces so ably designed by Donald E. Knuth.

So that the previewer will not spend time rendering PostScript graphics each time, an encapsulated PostScript file is rendered and cached so that minute changes can be made in location without having to re-render it. If you choose a menu option in the previewer called *Mock Graphics*, it will read the bounding box dimensions and use a blank square for sizing purposes. *psfilt* is part of the commercial package called *AmigaTEX*. ✓



More clipart from this month's disks

Thought For The Month

*Man will occasionally stumble over
the truth, but most of the time he will
pick himself up and continue on.*

CHAPTER NEWS

Amiga By-The-Loop

Pete Goad

The New Year caught most of the Club secretaries napping it appears! If you read the January newsletter, (since you are reading this, I assume you did) it had a serious lack of information from the December meetings of some of the Chapters. This, however, is a new year and as such we have the opportunity to step out on a different foot. So, with that in mind, and not in mouth, let me begin by wishing everyone much success in this new year and get you up to date with the Amiga By-The-Loop meeting.

David Owens, our President again this year, sporting some new facial growth, started the meeting on time (give or take five minutes) which in itself was pretty remarkable. If you have ever been to the Loop meetings, you will understand why. Anyway, David passed out a form that basically asked the members what they would like to see at the forthcoming club meetings. By the time the form reached the back of the room, it was completely filled with ideas. I suspect it will take a month or two for David to arrange all of the requests into some order, so until that happens stay glued to this section for information regarding the upcoming Loop meetings.

As usual, a welcome to the new members was extended, then the usual Q & A session. This month's questions ranged from 68030 accelerators and the new 386 PC boards to upgrading A3000 machines to the AGA chipset. Few rumors were forthcoming, but Commodore's Power-Up to A4000 and A1200 machines was re-iterated including the new prices.

The MCCC has a new Educational Chairman this year — Harold Williams. Harold spoke concerning the classes that are being

planned for various topics. High on the list is a class using the ARexx language. Harold would like to know any other classes that members would like to see, so drop him a line.

Following the introduction, the presentation for this month began in earnest. January's presentation was started with the sound of Star Trek being blasted out of an A2000 machine. Gerry Hambley, the owner of Ansoft in Fort Worth, brought along one of his A2000's that was fitted with a Sunrize Industries AD1012 12 bit DSP based Digital Audio Board. A piece of sophisticated hardware like this is useless without some piece of software. So to go along with this board, Sunrize supplies *Studio 16* software. Gerry explained that this setup allows you to record one track

This Just In!

The folks from NewTek will be at Metropolitan on the next Amiga day, March 20. They will be there displaying their wares and answering questions in Metropolitan's new Multimedia Room. You may want to set aside that day now.

of audio directly to your hard disk for editing and playback. Although you can only record one track at a time, you can playback up to four tracks at once. Using the SMPTE reader, you can sync to previously recorded material for dubbing, etc. The DSP on board this unit does some really

neat tricks. Firstly, it offloads the digitizing from the Amiga side and keeps it local to the AD1012 board. It can also be used for generating real-time effects like flanging, chorusing and weird delay/echo type effects. The quality of these effects is amazing.

It is really difficult to explain the quality of this sound board using words. I suppose it could be done by some terrific Bard...however, yours truly does not quite fall into that category. I suggest you get down to your nearest dealer and ask to listen to this piece of equipment. As you may well imagine, this type of technology does not come cheap. Gerry mentioned the price of this board was around \$565. There is also a stereo version called the AD516 that has 16 bit stereo digitization. This board sells for around \$1465.

Gerry showed us how the no-DJ radio stations create the impression that somebody is really in the studio, rather than a tape and timing machines. To demo this he used his voice to record an introduction followed by a 4 minute track from a Kenny G CD. The 4 minute track needs 11 MegaBytes of space on your hard disk! Fortunately, gigabyte drives are now available although they are still quite expensive.

Amiga-By-the-Loop would like to extend our thanks to Gerry for his excellent presentation on the ins and outs of this amazing Hardware / Software combination.

Now, as mentioned earlier — **The "What's the Loop Doing Next Month?" Section.**

Next month's presentation will be given by INOVAtronics and will be the new *Directory Opus 4.0* and a game called *Vektor Storm*.

Thanks to Ansoft, we had some door prizes! 1.5 Coffee Mugs. One and a half you ask yourself? Well, if truth be told, one of the mugs lost a handle in transit! The winners this

CHAPTER NEWS

month were Fred Noble (a whole Cup) and John Rainard (a partial cup). Congratulations to them and a big thanks to Ansoft.

Well, that's it for this month. We hope to see you at our next meeting of the Amiga By-The-Loop.

Amiga Central Harold Williams

The January meeting of the Amiga Central Chapter featured a video digitizing booth operated by D. Simmonds and John Malmstrom. They used D's Amiga 2000, equipped with a Video Toaster, to capture the images. The images were then processed with *Art Department Professional* to produce either JPEG, HAM8, HAM, or grey scale images. D also supplied a ton of video hardware, including lights and a special backdrop cloth, to create beautiful images. Some of us had to wait a while to get our turn, but before the evening was over everyone who wanted their face saved to a disk had it done. D and John did a terrific job. While the digitizing was being done, we held a record-setting question/answer session. Everyone had a chance to get "expert" help with their problems.

Our February Amiga Central Meeting will feature Scott Lamb. Scott has been an Amiga developer from the beginning of time. He will give us a report on the Developer's Conference held in Orlando at the end of January. Although much of what is discussed at these conferences falls under non-disclosure agreements, there is always plenty of news that can be discussed.

Amiga West Ben Clingerman

At the December Amiga West meeting we made the final vote for

officers and all of last year's officers were re-instated.

There was a small turn-out due to the Christmas season so we had many informal discussions and talked about rumors, etc.

At the January meeting of Amiga West we had a very nice turn-out. The main speaker was our president, Eddie Mojay. He went over three different software packages: *Pixel 3D Professional*, provided to us by Ansoft; *Scenery Animator 2*, also provided by Ansoft; *True Print 24* — Eddie Monjay provided for us.

Eddie started off with a 65 meg animation of a fly-over through a wooded canyon scene that he had rendered with *Scenery Animator 2* to his Syquest hard drive before the meeting. The quality of this scenery generator has become truly realistic. I was reminded of the demo from the CD package that comes with CDTV where the jet flies through the trees and mountains — but this was rendered to a hard drive. A very nice package.

Next, Eddie demonstrated *Pixel 3D* for us. Now *Pixel 3D*, if you are not aware, is not a 3D modeling program, but a program with which you may convert objects from one 3D program to another...such as *Imagine* to *Lightwave*. You can also use the program to extrude objects to 3D objects...such as text, but it's not really suited for complex images such as buildings.

Lastly, Eddie demonstrated *True Print 24*. The people at ASDG have decided to release this product for those who may have only need better print quality from their Amiga and don't need the full-blown *Art Department Professional* package. What *True Print 24* allows you to do is allow 8 bits per primary color, giving you 256 shades of gray or more than 16 million colors. Most paint programs and printer drivers only allow you 4 bits per primary color, giving you only 16 shades of

gray. This is a huge improvement over what was available. You actually have to view the difference at your local Amiga dealer to appreciate it. Eddie loaded a color picture in *True Print 24* then printed out to an HP 500C color ink-jet printer with near picture quality. He then enlarged it with a built-in enlargement window in *True Print 24* which, in turn, created 4 separate sheets — creating a poster of the same quality. You should have been there.

Many door prizes were given out, provided by Ansoft and by our vice-president, Mike Wagman. Winners were: Amiga mugs from Ansoft, Stan Fox and Mike Wagman; Free video rentals from Ansoft, Danny Vasquez, Doug Gaudin and Pete Stone. Software packages that our vice-president gave were: *Fantavision*, Wayne Brodnax; *F-18*, Frank Smith; *Rise of the Dragon*, me. Thanks, Ansoft, Mike and, of course, Eddie for the very fun and informative evening.

See you next month.

Fort Worth Brenda Sessums

Our new president, Jo Lynn Linville, ran a lotto program which printed sideways to make it easier to read. Our club may become millionaires — eat your heart out Amiga chapters.

John Burt presented a handwriting analysis program (#535) which was very in depth and seemed very accurate.

Steven Burt, our librarian, showed and explained a disolver program. He also demonstrated some nice games like *Scud Busters* — a version of a Tetris type game — and *Astro II* (an arcade game). He also demonstrated a useful utility that could utilize up to four drives.

Everyone enjoyed our meeting a great deal!

The Fine Print

The Metroplex Commodore Computer Club

Statement of Purpose: The Metroplex Commodore Computer Club is a not-for-profit organization devoted to the collection and dissemination of computer knowledge, to the encouragement of computer education, and to the use of Commodore computers in the home, at school, and in business.

Legal Stuff: The MCCC is not connected with Commodore Business Machines, Inc. Commodore and Commodore product names (PET, CBM, VIC, C64, C128, and Amiga) are registered trademarks of Commodore, Inc.

Meetings and Membership: Our meetings are open to all. Family membership dues are \$24 per year or \$15 for six months, and entitle the member to a monthly mailed copy of the MCCC News, free access to the club's extensive public domain and shareware software library, and discounts at many area merchants. An additional \$12 annual fee provides access to the MCCC multi-user Bulletin Board System.

The MCCC News

Copyright Information: Material printed in the MCCC News is not copyrighted unless so noted. Articles may be reprinted or otherwise distributed by other user groups or by individuals who may find it helpful as long as proper credit is given to the author and to the MCCC.

Advertising: The MCCC News accepts two kinds of advertising. Member ads are those which are submitted by a member and which are not of a commercial nature. There is no charge for member ads. Commercial ads are those which advertise multiple like items for sale. Rates for camera-ready commercial ads are as follows for a single month or (prepaid consecutive three months): Full Page — \$36 (\$96); Half Page — \$18 (\$48); Quarter Page — \$12 (\$32); Business Card — \$6 (\$16). Materials to be inserted will cost \$.08 per copy (duplication not included) and must be inserted into all newsletters for the month.

Articles: Members are encouraged to submit articles. Articles should be submitted as ASCII text or in Amiga *WordPerfect* or *Final Copy* format. They may be uploaded to the MCCC BBS, to StarText, or submitted on disk. If these methods are not possible, I will, as a last resort, accept printed articles. If graphics need to be included they may be submitted as Amiga IFF files, *PageStream* structured drawings, *Professional Draw* clips, or, again as a last resort, printed output.

Deadline: The deadline for submissions to the MCCC News is 7am of the fourth Saturday of each month. Payment must accompany all ad copy. Make checks payable to MCCC and mail c/o Bill Raecke, 2614 Charolais Way, Arlington, Texas 76017.

Extra Copies: Extra Copies of the MCCC News are available at \$1 per copy. Orders should be forwarded with the required fee by the regular newsletter deadline.

Normal Meeting Schedule

1st Saturday	MCCC Board of Directors
2nd Tuesday	Amiga By-The-Loop Chapter
2nd Tuesday	Arlington/Grand Prairie Chapter
2nd Thursday	Amiga West Chapter
2nd Saturday	Fort Worth Chapter
2nd Saturday	Arlington/Grand Prairie Workshop
3rd Wednesday	Amiga North Dallas Chapter
3rd Thursday	Amiga Central Chapter

SIGS

VidSIG Chuck Johnson 817-478-7313

MCCC Board of Directors

President	David Owens	817-577-2304
Vice President	Pete Goad	817-496-0509
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Secretary	Okley Moss	817-282-7751
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(C64/128 help)	Joe Ostrokol	817-534-1990
Education Chair	Harold Williams	817-483-0537
BBS Coordinator	Okley Moss	817-282-7751
Newsletter Editor	Bill Raecke	817-465-2014
Past President	Ray Howard	214-660-4819

MCCC BBS Numbers

(METRO @ 14,400 BAUD)	817-268-4191
(METRO @ 14,400 BAUD)	817-268-4196

MCCC Chapter Officers

Amiga By-The-Loop Chapter

President	David Owens	817-577-2304
Vice President	Joanna Owens	817-577-2304
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Secretary	Brad Dumler	817-483-2322
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Treasurer	John Sookma	817-293-8691
Secretary	Brenda Sessums	817-367-3135
Librarian	Stephen Burt	817-441-8115

CALENDAR OF EVENTS

Feb 6 MCCC Board of Directors
10:00 am — N.Richland Hills Community Center
Loop 820 at Rufe Snow, N.Richland Hills

Feb 9 Amiga By-The-Loop Chapter
7:30 pm — N.Richland Hills Community Center
Loop 820 at Rufe Snow, N.Richland Hills

Feb 9 Arlington/Grand Prairie Chapter
6:30 pm — Grand Prairie Public Library
Conover Drive, Grand Prairie

Feb 11 Amiga West Chapter
7:30 pm — Texas College of Osteopathic Medicine
Lancaster & Camp Bowie, Fort Worth

Feb 13 Fort Worth Chapter
1:30 pm — Texas College of Osteopathic Medicine
Lancaster & Camp Bowie, Fort Worth

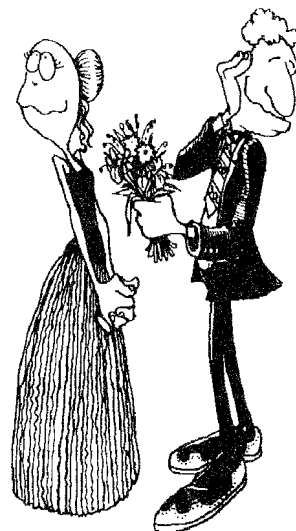
Feb 13 Arlington/Grand Prairie Workshop
1:30 pm — Grand Prairie Public Library
Conover Drive, Grand Prairie

Feb 17 Amiga North Dallas Chapter
7:30 pm — Richardson Civic Center
411 West Arapaho, Richardson

Feb 18 Amiga Central Chapter
7:30 pm — Arlington Community Center
2800 S. Center, Arlington

Feb 20 Amiga Beginner Class
10:00 am — Metropolitan Computer Products
4372 Spring Valley, Dallas

Mar 6 MCCC Board of Directors
10:00 am — N.Richland Hills Community Center
Loop 820 at Rufe Snow, N.Richland Hills



March Newsletter Deadline — 7am, February 27

MCCC NEWS

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